Photogrammetry Tool for UAV Land Surveying Missions

Before the introduction of small unmanned aerial vehicles (UAVs) for aerial photogrammetry, planes, helicopters and metric cameras were used. Aerial mapping projects were often not only costly, but also complex due to the images being taken from high altitudes. UAVs have provided more affordable and faster aerial mapping solutions. When it comes to planning survey missions for small UAVs, UgCS is suitable software for the job. It supports most UAV platforms and provides useful tools such as a photogrammetry tool and an image geotagging tool.

The photogrammetry tool in UgCS (designed by SPH Engineering) allows creating and flying photogrammetry missions with ease. After selecting the area and entering desired parameters, UgCS will automatically calculate the route. Some of the adjustable parameters include: ground sample distance (GSD), forward and side overlap, automatic camera and gimbal control commands, overshoot parameter, ability to choose an altitude type - constant altitude above ground (AGL) or above mean sea level (AMSL) and more. UgCS makes it possible to survey irregular areas with just one route. This is done by combining multiple areas into a single route instead of splitting them into multiple routes.

The images obtained during the flight can be geotagged by syncing them with telemetry data using the Geotagging tool that's in-built in UgCS. Moreover, the data from all flights is saved in UgCS, allowing them to be replayed at any time.

UgCS supports GeoTiff file import. This means that after flying a survey route and mapping the area, the map can be imported back into UgCS to plan the next flight with increased precision.

In collaboration with land surveying professionals, SPH Engineering has published a detailed guide to using UgCS Photogrammetry tool for land surveying. It is published on www.ugcs.com and features step-by-step instructions and a video tutorial.

https://www.gim-international.com/content/news/photogrammetry-tool-for-uav-land-surveying-missions